

UNITED STATES PATENT APPLICATION FOR

METHODS AND APPARATUSES FOR
VIEWING CHOICES AND MAKING SELECTIONS

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METHODS AND APPARATUSES FOR VIEWING CHOICES AND MAKING SELECTIONS

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FIELD OF THE INVENTION

The present invention relates generally to viewing choices and making selections and, more particularly, to viewing choices and making selections based on dynamic input.

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BACKGROUND

There are many uses for electronic devices such as computers, cellular phones, personal digital devices (PDAs), still cameras, and video cameras. There are a variety of ways that users interact with and control these electronic devices.

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For example, a drop down menu is a common way for a user to make selections through an interface on an electronic device. In this example, the user selects a particular menu selection from a plurality of selections offered to the user through a drop down menu. In another example, the possible selections shown within a particular drop down menu are initially abbreviated. In one case, the user is able to select from one of the abbreviated selections. In another case, the user selects an expansion symbol within one of the abbreviated possible selections, and a full range of possible selections are displayed and available within the drop down menu.

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Selecting an icon that represents a selection is another way for the user to

make a selection through the interface on the electronic device. The icon is typically a graphical representation of content or a function available through the electronic device. In one example, these icons are displayed on a desktop. In another example, these icons are arranged within folders.

SUMMARY

In one embodiment, the methods and apparatuses detect an input; display
5 a plurality of selections; detect a location of a first segment relative to the plurality
of selections; highlight a particular selection from the plurality of selections when
the first segment is within an area of the particular selection; and select the
particular selection based on the first segment being located within the area of
the particular selection.

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BRIEF DESCRIPTION OF THE DRAWINGS

The accompanying drawings, which are incorporated in and constitute a part of this specification, illustrate and explain one embodiment of the methods
5 and apparatuses for viewing choices and making selections. In the drawings,

Figure 1 is a diagram illustrating an environment within which the methods and apparatuses for viewing choices and making selections are implemented;

Figure 2 is a simplified block diagram illustrating one embodiment in which the methods and apparatuses for viewing choices and making selections are
10 implemented;

Figure 3 is a simplified block diagram illustrating one embodiment in which the methods and apparatuses for viewing choices and making selections are implemented;

Figure 4 is a simplified block diagram illustrating a system, consistent with
15 one embodiment of the methods and apparatuses for viewing choices and making selections;

Figures 5A, 5B, 5C, and 5D are screen shots that illustrate one embodiment of the methods and apparatuses for viewing choices and making selections;

20 Figures 6A, 6B, 6C, and 6D are screen shots that illustrate one embodiment of the methods and apparatuses for viewing choices and making selections;

Figure 7 is a screen shot that illustrate one embodiment of the methods and apparatuses for viewing choices and making selections;

Figure 8 is a flow diagram consistent with one embodiment of the methods and apparatuses for viewing choices and making selections;

5 Figure 9A and 9B are screen shots that illustrate one embodiment of the methods and apparatuses for viewing choices and making selections;

Figure 10A, 10B, and 10C are screen shots that illustrate one embodiment of the methods and apparatuses for viewing choices and making selections;
and

10 Figure 11 is a screen shot that illustrates one embodiment of the methods and apparatuses for viewing choices and making selections.

DETAILED DESCRIPTION

The following detailed description of the methods and apparatuses for viewing choices and making selections refers to the accompanying drawings.

5 The detailed description is not intended to limit the methods and apparatuses for viewing choices and making selections. Instead, the scope of the methods and apparatuses for viewing choices and making selections are defined by the appended claims and equivalents. Those skilled in the art will recognize that many other implementations are possible, consistent with the present invention.

10 References to “electronic device” and “device” include a device utilized by a user such as a computer, a portable computer, a personal digital assistant, a cellular telephone, and a device capable of receiving/transmitting an electronic message.

In one embodiment, the methods and apparatuses for viewing choices
15 and making selections displays a plurality of selections and accepts input from a user that controls a rotating segment that aids the user in choosing from among these possible selections. In one embodiment, a particular selection from the plurality of selections is highlighted based on the vicinity of the rotating segment to the particular selection. For example, as the rotating segment approaches
20 each of the plurality of selections, a corresponding selection is highlighted. In one embodiment, the corresponding selection is enlarged when the selection is highlighted.

In one embodiment, the length of the rotating segment is controlled by the input. As the length of the rotating segment increases, the magnitude of highlighting a corresponding selection increases. For example, if the rotating segment activates a particular segment and the length of rotating segment is small, then the particular segment is slightly enlarged relative to the normal size of the particular segment. However, if the length of rotating segment is increased, then the particular segment is enlarged even greater compared to the normal size of the particular segment.

Figure 1 is a diagram illustrating an environment within which the methods and apparatuses for viewing choices and making selections are implemented. The environment includes an electronic device 110 (e.g., a computing platform configured to act as a client device, such as a computer, a personal digital assistant, and the like), a user interface 115, a network 120 (e.g., a local area network, a home network, the Internet), and a server 130 (e.g., a computing platform configured to act as a server).

In one embodiment, one or more user interface 115 components are made integral with the electronic device 110 (e.g., keypad and video display screen input and output interfaces in the same housing such as personal digital assistant). In other embodiments, one or more user interface 115 components (e.g., a keyboard, a touch screen, a pointing device such as a mouse, a trackball, etc.), a microphone, a speaker, a display, a camera are physically separate from, and are conventionally coupled to, electronic device 110. In one embodiment, the user utilizes interface 115 to access and control content and applications

stored in electronic device 110, server 130, or a remote storage device (not shown) coupled via network 120.

In accordance with the invention, embodiments of viewing choices and making selections below are executed by an electronic processor in electronic
5 device 110, in server 130, or by processors in electronic device 110 and in server 130 acting together. Server 130 is illustrated in Figure 1 as being a single computing platform, but in other instances are two or more interconnected computing platforms that act as a server.

Figure 2 is a block diagram illustrating one embodiment for an electronic
10 device 110 within the system. In one embodiment, the server 130 is connected to multiple electronic devices 110 via the network 120. In one embodiment, the electronic device 110 includes a computer system 210 connected to a storage system 220 via connection 215, for example a digital connection. In one embodiment, the digital connection 215 is a high-speed broadband connection
15 such as a universal serial bus (USB) connection. Alternatively, the digital connection 215 is an external bus that supports the IEEE 1394 serial bus standard and provides data transfer rates of up to 400 million bits per second.

In one embodiment, the storage system 220 is connected to a display device 230 such as a television set, via connection 225. In one embodiment, the
20 connection 225 is an analog connection such as coaxial cable. In an alternate embodiment, the storage system 220 is connected to the display device 230 through digital connection 225.

In an alternate embodiment, multiple storage systems 220 are connected to the computer system 210. In one embodiment, the storage systems 220 are connected using a connection technique commonly known as daisy chaining. In this embodiment, each storage system 220 has an input port that receives data
5 from the computer system 210 or a previous storage system 220 in the chain, and an output port that transmits data to a subsequent storage system 220 in the chain or to the display device 230. Alternatively, the computer system 210 includes multiple ports and each input port of the storage systems 220 is connected to one port of the computer system 210.

10 In one embodiment, upon receiving a request from a user, the computer system 210 receives data from the server 130. In one embodiment, the data is audio/video information, graphics, and/or text information. In one embodiment, the data is transmitted along the digital connection 215 to the storage system 220. The storage system 220 stored data for subsequent display on the display
15 device 230.

Figure 3 illustrates one embodiment of a computer system which illustrates an exemplary electronic device 110 or server 130, in which the features of the methods and apparatuses for viewing choices and making selections are implemented.

20 In one embodiment, a computer system 300 includes a system bus 301 or other communications module similar to the system bus, for communicating information, and a processing module such as a processor 302 coupled to the system bus 301 for processing information. The computer system 300 further

includes a main memory 304 such as a random access memory (RAM) or other dynamic storage device, coupled to the system bus 301 for storing information and instructions to be executed by the processor 302. The main memory 304 is utilized for storing variables or other intermediate information during execution of
5 instructions by the processor 302.

In one embodiment, the computer system 300 also comprises a read only memory (ROM) 306, and/or similar static storage device coupled to the system bus 301 for storing static information and instructions for the processor 302.

In one embodiment, an optional data storage device 307 such as a
10 magnetic or optical disk and its corresponding device is also coupled to the computer system 300 for storing information and instructions. In one embodiment, the system bus 301 is coupled to an external bus 310 such that the computer system 300 connects to other devices. In one embodiment, the computer system 300 is coupled via the external bus 310 to a display device 321
15 such as a cathode ray tube or a liquid crystal display for displaying information to a user.

In one embodiment, an alphanumeric input device 322 is coupled to the external bus 310 for communicating information and/or command selections to the processor 302. In one embodiment, another type of user input device is a
20 cursor control device 323 such as a conventional mouse, touch mouse, trackball, or other type of cursor direction key, for communicating direction information and command selection to the processor 302 and for controlling cursor movement on the display 321.

In one embodiment, a communications device 324 is also coupled to the external bus 310 for accessing remote computers or servers. The communications device 324 includes a modem, a network interface card, or other well known interface device such as those used for interfacing with Ethernet,
5 Token-ring, or other types of networks.

Figure 4 illustrates one embodiment of a system 400. In one embodiment, the system 400 is embodied within the server 130. In another embodiment, the system 400 is embodied within the electronic device 110. In yet another embodiment, the system 400 is embodied within both the electronic device 110
10 and the server 130.

In one embodiment, the system 400 includes an input detection module 410, a render module 420, a storage module 430, an interface module 440, and a control module 450.

In one embodiment, the control module 450 communicates with the input
15 detection module 410, the render module 420, the storage module 430, and the interface module 440. In one embodiment, the control module 450 coordinates tasks, requests, and communications between the input detection module 410, the render module 420, the storage module 430, and the interface module 440.

In one embodiment, the input detection module 410 detects input from a
20 device such as the electronic device 110 through the interface module 440. In one embodiment, the input represents a selection of a choice within the electronic device 110. In one embodiment, a user of the electronic device 110 supplies the input.

In one embodiment, the input represents the selection of a choice that is displayed on the electronic device 110. In another embodiment, the input represents an action that requests further information to be displayed to the user through the electronic device 110.

5 In one embodiment, the render module 420 creates graphics for viewing by the electronic device 110 based on the input detected within the input detection module 410. In one embodiment, the graphics created by the render module 420 are displayed on the electronic device 110 through the interface module 440. For example, based on the input, the render module 420 creates a
10 dynamic graphical representation for display to the user through the electronic device 110 based on the input.

In one embodiment, the storage module 430 stores various graphics and instructions that are utilized by the render module 420 to create the graphics for display on the electronic device 110.

15 In one embodiment, the interface module 440 receives the input from the electronic device 110. In one embodiment, the input is initiated from the user of the electronic device 110. In another embodiment, the interface module 440 transmits a signal representing graphics for display on the electronic device 110.

The system 400 in Figure 4 is shown for exemplary purposes and is
20 merely one embodiment of the methods and apparatuses for viewing choices and making selections. Additional modules may be added to the system 400 without departing from the scope of the methods and apparatuses for viewing choices and making selections. Similarly, modules may be combined or deleted

without departing from the scope of the methods and apparatuses for viewing choices and making selections.

Figures 5A-5D and 6A-6D are exemplary screen shots that illustrate one embodiment of the methods and apparatuses for viewing choices and making
5 selections.

Figure 5A illustrates a screen shot 500. In one embodiment, the screen shot 500 is configured to be displayed within the electronic device 110. In another embodiment, the screen shot 500 is configured to accept input through a touch screen, a touch pad, a mouse, or a pointing device. For example, while
10 displaying the screen shot 500 through the electronic device 110, the screen shot 500 also invites a user to provide input through the electronic device 110 in response to the screen shot 500.

The screen shot 500 includes a selection area 590 that also includes a selection 510, a selection 515, a selection 520, and a selection 525. In one
15 embodiment, the selections 510, 515, 520, and 525 represents different choices that are available to be selected from. In one embodiment, the different choices represented by the selections 510, 515, 520, and 525 include functions such as "printing", "saving", "making appointments", and the like. In another embodiment, the different choices include content such as "music", "videos", "documents", and
20 the like.

A mark 501 represents an initial marking made by a user. In one embodiment, the mark 501 is made by pointing device such as a mouse, a touch pad, and the like. In another embodiment, the mark 501 is made utilizing a touch

screen.

In one embodiment, the location of the mark 501 determines the placement of the selection area 590 around the mark 501. In another embodiment, the user's initial marking prior to making a selection is automatically
5 directed to the mark 501 as a starting point. In yet another embodiment, the mark 501 represents the general area selected by the user prior to making a selection. In yet another embodiment, the mark 501 initiates the selection area 690 and the selections 510, 515, 520, and 525.

Figure 5B illustrates the screen shot 500 including the selection area 590;
10 the selections 510, 515, 520, and 525; the mark 501; and a first segment 502. The first segment 502 is shown originating from the mark 501 and terminating on the end opposite of the mark 501.

In one embodiment, the user forms the first segment 502 by depressing the pointing device button on the mark 501 and dragging the pointing device
15 away from the mark 501. In another embodiment, the user forms the first segment 502 by depressing the touch screen at the mark 501 and dragging an object away from the mark 501.

In one embodiment, the first segment 502 rotates around the mark 501. In one embodiment, the user controls the rotation of the first segment around the
20 mark 501 by depressing the pointing device button and moving the pointing device. In another embodiment, the user controls the rotation of the first segment around the mark 501 by depressing the touch screen while moving the first segment 502.

The selection 520 is shown enlarged compared to the selections 510, 515, and 525, in response to the proximity of the first segment 502. In one embodiment, the selection 520 is enlarged when the first segment 502 is within a general proximity of the selection 520. By enlarging the selection 520, the
5 location of the first segment 502 is shown as being in the correct location to choose the selection 520.

In an alternate embodiment, the selection 520 is shown in a different color instead of being enlarged in response to the proximity of the first segment 502. In another alternate embodiment, the selection 520 is shown flashing on and off
10 instead of being enlarged in response to the proximity of the first segment 502.

Although not shown in Figure 5B, as the first segment 502 rotates in the proximity of the selection 510, the selection 520 returns to the normal size; and the selection 510 is enlarged relative to the selections 515, 520, and 525.

Figure 5C illustrates the screen shot 500 including the selection area 590;
15 the selections 510, 515, 520, and 525; the mark 501; the first segment 502; and sub-selections 530, 535, 540, and 545. The sub-selections 530, 535, 540, and 545 correspond with the selection 520 and are shown as the selection 520 is highlighted by the position of the first segment 502 in the proximity of the selection 520.

20 In one embodiment, the selection 520 is chosen by the user prior to the display of the sub-selections 530, 535, 540, and 545. In one embodiment, the selection 520 is chosen by releasing the button of the pointing device or releasing the touch screen while the first segment 502 is over the selection 520.

In an alternate embodiment, the selection 520 is chosen by elongating the first segment 502 while the first segment 502 is over the selection 520.

In another embodiment, when the first segment 502 is within the proximity of the selection 520, the sub-selections 530, 535, 540, and 545 corresponding
5 with the selection 520 are displayed.

Although not shown in Figure 5C, in another embodiment, various sub-selections corresponding to the selections 510, 515, and 525 are displayed when the first segment 502 rotates in the proximity of the corresponding selection.

Figure 5D illustrates the screen shot 500 including the selection area 590;
10 the selections 510, 515, 520, and 525; the mark 501; the first segment 502; the sub-selections 530, 535, 540, and 545; a pivot 505; a second segment 503; and sub-selections 550, 555, 560, and 565. The sub-selections 550, 555, 560, and 565 correspond with the sub-selection 530 and are shown as the sub-selection 530 is highlighted by the position of the second segment 503 in the proximity of
15 the sub-selection 530.

In one embodiment, the pivot 505 and the second segment 503 are initiated based on the selection 520 by the first segment 502. In one embodiment, the second segment 503 is configured to rotate around the pivot 505. In one embodiment, as the second segment 503 is lengthened over the
20 sub-selection 530, the sub-selection 530 is enlarged.

As the second segment 503 passes over the sub-selection 530, the sub-selections 550, 555, 560, and 565 are displayed. The sub-selections 550, 555, 560, and 565 are additional choices that are related to the sub-section 530.

In one embodiment, the sub-selections 550, 555, 560, and 565 are selectable in the same manner that sub-sections 530, 535, 540, and 545 are reached through the selection 520.

5 In one embodiment, the sub-selections 550, 555, 560, and 565 are viewed and selected through interaction with the pointing device and/or the touch screen. Further, the selections 510, 515, 520, and 525 and the sub-selections 530, 535, 540, and 545 are also shown with a clear indication that the selection 520 and the sub-selection 530 was also chosen.

Figure 6A illustrates a screen shot 600. In one embodiment, the screen
10 shot 600 is configured to be displayed within the electronic device 110. In another embodiment, the screen shot 600 is configured to accept input through a touch screen, a touch pad, a mouse, or a pointing device. For example, while displaying the screen shot 600 through the electronic device 110, the screen shot 600 also invites a user to provide input through the electronic device 110 in
15 response to the screen shot 600.

The screen shot 600 includes a selection area 690 that also includes a selection 610, a selection 615, a selection 620, and a selection 625. In one embodiment, the selections 610, 615, 620, and 625 represents different choices that are available to be selected from. In one embodiment, the different choices
20 represented by the selections 610, 615, 620, and 625 include functions such as "printing", "saving", "making appointments", and the like. In another embodiment, the different choices include content such as "music", "videos", "documents", and the like.

A mark 601 represents an initial marking made by a user. In one embodiment, the mark 601 is made by pointing device such as a mouse, a touch pad, and the like. In another embodiment, the mark 601 is made utilizing a touch screen.

5 In one embodiment, the location of the mark 601 determines the placement of the selection area 690 around the mark 601. In another embodiment, the user's initial marking prior to making a selection is automatically directed to the mark 601 as a starting point. In yet another embodiment, the mark 601 represents the general area selected by the user prior to making a
10 selection. In yet another embodiment, the mark 601 initiates the selection area 690 and the selections 610, 615, 620, and 625.

Figures 6B, 6C, and 6D illustrate the screen shot 600 including the selection area 690; the selections 610, 615, 620, and 625; the mark 601; and a segment 602.

15 In Figures 6B, 6C, and 6D, the segment 602 is shown originating from the mark 601 and terminating on the end opposite of the mark 601. In one embodiment, the user forms the segment 602 by depressing the pointing device button on the mark 601 and dragging the pointing device away from the mark 601. In another embodiment, the user forms the segment 602 by depressing the
20 touch screen at the mark 601 and dragging an object away from the mark 601. In yet another embodiment, the user forms the segment 602 by selecting the area around the mark 601 and selecting an object away from the mark 601.

In one embodiment, the length of the segment 602 is determining by how

far away from the mark 601 either the object depressing the touch screen or the pointing device is dragged away from the mark 601. For example, the segment 602 shown in Figure 6B is shorter than the segment 602 shown in Figures 6C and 6D. Similarly, the segment 602 shown in Figure 6D is longer than the
5 segment 602 shown in Figures 6B and 6C.

In one embodiment, the segment 602 rotates around the mark 601. In one embodiment, the user controls the rotation of the first segment around the mark 601 by depressing the pointing device button and moving the pointing device. In another embodiment, the user controls the rotation of the first
10 segment around the mark 601 by depressing the touch screen while moving the segment 602. Depending on the location of the segment 602, the segment 602 can be pointed towards any one of the selections 610, 615, 620, and 625.

In Figure 6B, the selection 625 is shown enlarged compared to the selections 610, 615, and 620, in response to the proximity of the segment 602 to
15 the selection 625. By enlarging the selection 625, the location of the segment 602 is shown as being in the correct location to choose the selection 625.

In Figure 6C, the selection 625 is shown enlarged even greater than in Figure 6B. Similarly, the segment 602 shown in Figure 6C is larger than the segment shown in Figure 6B. In Figure 6D, the selection 625 is shown enlarged
20 even greater than in Figure 6C. Similarly, the segment 602 shown in Figure 6D is larger than the segment shown in Figure 6C. In one embodiment, the size of the particular selection is based on the location of the segment 602. In addition, the enlarged size of the particular selection is also proportional to the length of

the segment 602. For example, as the length of the segment 602 increases, the particular selection grows larger. In another embodiment, the drag lengths are adjusted such that the growth of the particular selection is not a 1:1 ratio with the increase of length of the segment 602.

5 In an alternate embodiment, the selection 625 is shown in a different color instead of being enlarged in response to the proximity and length of the segment 602. In another alternate embodiment, the selection 625 is shown flashing on and off instead of being enlarged in response to the proximity and length of the first segment 602.

10 In another embodiment, as the length of the segment 602 increases, additional information about the selection is displayed. For example, if the particular selection is associated with a "printing" function, then as the length of the segment 602 increases the content that is being printed is also displayed.

15 Figure 7 illustrates a screen shot 700. The screen shot 700 includes a cursor 705, a display area 710, a current time value 720, and a first time value 730. In one embodiment, the current time value 720 and the first time value 730 each graphically represent a distinct time. For example, the current time value 720 represents a present time that constantly moves forward, and the first time value 730 represents a fixed time in the future such as an appointment.

20 In one embodiment, the display area 710 is utilized to convey the amount of time left before the first time value 730 based on the current time value 720. For example, the current time value 720 is represented as 1 P.M., and the first time value 730 is represented as 3 P.M. In this example, the display area 710

shows that there are 2 hours prior to the first time value 730. After 5 minutes elapse, the current time value 720 is at 1:05 P.M., and the first time value 730 remains at 3 P.M. Accordingly, the display area 710 shows that there is 1 hour and 55 minutes prior to the first time value 730.

5 In one embodiment, the display area 710 shows the time remaining prior to the first time value 730 when the cursor 705 is pointed at the first time value 730. In another embodiment, the display area 710 shows the time remaining prior to the first time value 730 when the cursor 705 is pointed at the current time value 720 and dragged to the first time value 730.

10 The flow diagram as depicted in Figure 8 is one embodiment of the methods and apparatuses for viewing choices and making selections. The blocks within the flow diagrams can be performed in a different sequence without departing from the spirit of the methods and apparatuses for viewing choices and making selections. Further, blocks can be deleted, added, or combined without
15 departing from the spirit of the methods and apparatuses for viewing choices and making selections.

 The flow diagram in Figure 8 illustrates viewing choices and making selections according to one embodiment of the invention.

 In Block 810, the system 400 detects an input. In one embodiment, the
20 input is detected through the input detection module 410. In one embodiment, the input is created through a pointing device. In another embodiment, the input is created through a touch screen.

In Block 820, selections are displayed in response to the input detected in the Block 810. In one embodiment, the selections are displayed through the render module 420.

In Block 830, a first segment is detected.

5 In Block 840, one of the selections displayed in the Block 820 is highlighted based on the location of the first segment. For example, if the first segment is rotated towards a particular selection, then this particular selection is highlighted. In one embodiment, highlighting a particular selection is accomplished by enlarging this selection. In another embodiment, highlighting a particular selection is accomplished by changing the color of this selection. In yet
10 another embodiment, highlighting a particular selection is accomplished by flashing this selection on and off.

In Block 850, a choice is detected for one of the selections.

In Block 860, a group of sub-selections is displayed. In one embodiment,
15 the group of sub-selections corresponds to the chosen selection in the Block 850.

Figure 9A illustrates a screen shot 900 that displays information relating to a meeting between multiple participants. An event 901 is illustrated including a count down timer 902, a meeting location 905, an event time 910, an event dialog 915, and event participants 920. The event participants 920 includes sub
20 categories of number of confirmed participants 921, number of undecided participants 922, number of participants that declined the event 923, adding a participant 924, accepting the invitation to the event 925, replying with a possible attendance to the event 926, and declining the invitation to the event 927.

In one embodiment, the confirmed participants 921 are shown in green. In one embodiment, the undecided participants 922 are shown in yellow. In one embodiment, the declined participants 923 are shown in red.

Figure 9B illustrates a screen shot 930 that displays information relating to a meeting between multiple participants. A first segment 945 is shown selecting the event participants 920. A second segment 950 is shown selecting the number of confirmed participants 921 that is a sub category of the event participants 920. A third segment 960 is shown selecting one participant 936 from a plurality of other participants 935, 937, 938, 939, and 940.

Figure 10A illustrates a screen shot 1000 that displays information that indicates that the participant is confirmed in attending the event. In one embodiment, the screen shot is displayed in green.

Figure 10B illustrates a screen shot 1010 that displays information that indicates that the participant is undecided in attending the event. In one embodiment, the screen shot is displayed in yellow.

Figure 10C illustrates a screen shot 1020 that displays information that indicates that the participant has declined in attending the event. In one embodiment, the screen shot is displayed in red.

Figure 11 illustrates a screen shot 1100 displaying timing relationships of an event. A current time is represented by a current time line 1110. The time of the event is represented by an event marker 1120. The distance between the current time line 1110 and the event marker 1120 is proportional to the time between the event and the current time. In one embodiment, a display 1130

shows the amount of time remaining prior to the associated event. In another embodiment, the display 1130 shows the actual time of the event.

The foregoing descriptions of specific embodiments of the invention have been presented for purposes of illustration and description. The invention may
5 be applied to a variety of other applications.

They are not intended to be exhaustive or to limit the invention to the precise embodiments disclosed, and naturally many modifications and variations are possible in light of the above teaching. The embodiments were chosen and described in order to explain the principles of the invention and its practical
10 application, to thereby enable others skilled in the art to best utilize the invention and various embodiments with various modifications as are suited to the particular use contemplated. It is intended that the scope of the invention be defined by the Claims appended hereto and their equivalents.